REMARKS

The office action of July 12, 2005 has been reviewed and its contents carefully noted. Reconsideration of this case, as amended, is requested. Claims 1 through 12 remain in this case.

A petition for an extension of two months is also enclosed with this response.

The numbered paragraphs below correspond to the numbered paragraphs in the Office Action.

Objections to the Drawings

2. The drawings were objected to as failing to comply with 37 CFR 1.84(p)(4) because of unlabeled graphical line shown in Figure 5.

Applicant respectfully disagrees, 37 CFR 1.84(p)(4) states, "The same part of an invention appearing in more than one view of the drawing must always be designated by the same reference character, and the same reference character must never by used to designate different parts."

Reference characters A, B, C, and D are used to describe the sending of information within the half-duplex communication interface driver and are shown in both Figures 4 and 5. The reference characters designate the same parts of the invention in both of the figures and in neither case is descriptive text labels used.

For the Examiner's reference, reference character A is the data over the sending line, and reference character B is the signal sent out from the interface 541, according to page 14, lines 19-20 of the specification as originally filed. Reference character C is the reversed message that results from the reverse-direction generator 542 as stated on page 15, line 3 of the specification as originally filed. Reference character D is the output signal from the signal subtraction processor 543 as stated on page 15, line 13 of the specification as originally filed.

Applicant has amended Figure 5 and the specification to add reference number 544 to indicate the shaded portions in Figure 5. No new matter has been added. Reconsideration and withdrawal of the objections are respectfully requested.

Rejection(s) under 35 U.S.C. §103

3. Claims 1, 3-4, 6-7, 9-10, and 12 were rejected under 35 U.S.C. 103(a) as being unpatentable over Badie et al. (US 5,490,219).

Applicant respectfully disagrees. Badie et al. discloses a noise canceling microphone with visual feedback, which is mainly employed in wireless intercom. Ambient noise is removed from a sound wave, and then the sound wave without ambient noise is then sent to an antenna, lest the transmitted signal should still include any ambient noise. The LED in Badie et al. is used to indicate when the level of the ambient noise being converted to an electrical signal is above a predetermined level. Badie et al. also includes a switch to decide whether the signal is transmitted via an antenna or a cable.

The conventional RS-485 is mainly employed in multi drop. In other words, the RS-485 is used in networking for transmission to multiple points at the same time. The currently well-known Ethernet has the problem of controlling receiving and sending because the same one transmission line is used in the RS-485 networking. That is, the transmission line can be used to receive or to transmit data at a time. In the past, RS-485 communication equipment must use software or complicate circuits to control the transmission direction. In the present invention, a much simpler way is provided to achieve the purpose of controlling the transmission direction for a half-duplex communication apparatus. The usage and the configuration of the present invention are different from that cited in Badie et al.

Badie et al. does not teach or suggest a full-duplex or half-duplex communication apparatuses where a signal level is directly used to determine whether a signal is an outgoing signal for transmitting or an incoming signal for receiving. More specifically, Badie et al. does not teach or disclose a switching device that sends a direction switching signal to a half-duplex communication interface driver to set a transmission direction based on the data of the signal, as required in claims 1 and 4. Applicant's claim 1, states:

"A transmission direction switching device for a half-duplex communication apparatus, said half-duplex communication apparatus including a universal asynchronous receiver transmitter (UART) and a half-duplex communication interface driver having a signal

subtraction function and connected to said UART via a sending line and to said transmission direction switching device via a direction control line; said transmission direction switching device comprising:

a data transmission detector coupled to said sending line for detecting any data to be sent and sending said data if such data exists; and

a direction-switching rule executor for receiving said data sent out by said data transmission detector, and sending a direction switching signal via said direction control line to said half-duplex communication interface driver to set a transmission direction of said half-duplex communication interface driver to a sending direction when said data received from said data transmission detector is a signal 0 or a low signal, or sending a direction

switching signal via said direction control line to said half-duplex communication interface driver to set a transmission direction of said half-duplex communication interface driver to a receiving direction when said data received from said data transmission detector is a signal 1 or a high signal.

Applicant's claim 4 states in part:

...

"switching device comprising:

"a data transmission detector coupled to said sending line for detecting any data to be sent and sending said data if such data exists; and

"a direction-switching rule executor for receiving said data sent out by said data transmission detector and generating a negative data in reverse to said data received from said data transmission detector; and said direction-switching rule executor sending a direction switching signal via said direction control line to said half-duplex communication interface driver to set a transmission direction of said half-duplex communication interface driver to a sending direction when said negative data is a signal 0 or a low signal, or sending a direction switching signal

via said direction control line to said half-duplex communication interface driver to set a transmission direction of said half-duplex communication interface driver to a receiving direction when said negative data is a signal 1 or a high signal."

Reconsideration and withdrawal of the rejections are respectfully requested.

Claims 7 and 10 disclose a method of switching the transmission direction of a half-duplex communication apparatus. Badie et al. does not teach or suggest the step of

implementing transmission direction switching by using said direction-switching rule executor to receive said data sent by said data transmission detector, such that said direction-switching rule executor sends a direction switching signal via said direction control line to said half-duplex communication interface driver to set a transmission direction of said half-duplex communication interface driver to a sending direction when said data received from said data transmission detector is a signal 0 or a low signal, or sends a direction switching signal via said direction control line to said half-duplex communication interface driver to set a transmission direction of said half-duplex communication interface driver to a receiving direction when said data received from said data transmission detector is a signal 1 or a high signal.

Reconsideration and withdrawal of the rejections are respectfully requested.

Therefore, it is respectfully suggested that the rejection of independent claims 1, 4, 7, and 10 as being obvious in view of Badie et al. (US 5,490,219) is overcome. Dependent claims 2-3, 5-6, 8-9 and 11-12, being dependent upon and further limiting independent claims 1, 4, 7, and 10, respectively, should also be allowable for that reason, as well as for the additional recitations they contain. Reconsideration and withdrawal of the rejections are respectfully requested.

Conclusion

Applicant believes the claims, as amended, are patentable over the prior art, and that this case is now in condition for allowance of all claims therein. Such action is thus respectfully requested. If the Examiner disagrees, or believes for any other reason that direct contact with

Applicants' attorney would advance the prosecution of the case to finality, he is invited to telephone the undersigned at the number given below.

"Recognizing that Internet communications are not secured, I hereby authorize the PTO to communicate with me concerning any subject matter of this application by electronic mail. I understand that a copy of these communications will be made of record in the application file."

Respectfully Submitted:
Pi Yuan Shin

By: _____
Lynda Wood, Reg. No. 53,791
Agent for Applicant

BROWN & MICHAELS, P.C.
400 M&T Bank Building - 118 N. Tioga St.
Ithaca, NY 14850
(607) 256-2000 • (607) 256-3628 (fax)
e-mail: docket@bpmlegal.com
Dated: November 21, 2005

Amendments to the Drawings:

The attached sheet(s) of drawings include changes as listed below. The attached replacement sheet(s) replace the original sheet(s).

The changes are as follows.

Figure 5: Added a reference number pointing to the shaded portions

Attachment: 1 Replacement Sheet(s)